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combined.
- c) deriving a second bit rate as a percentage of the first bit rate, changes ^{are} in which percentage are inversely ^{in relation} related to changes in the first bit rate ^{and}
- d) reading the encoded digital video signal bit stream out of the buffer at the second bit rate.
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In claim 3, line 3, after "derived from", replace "the" with --a--.

In claim 4, line 3, after "other types of", replace "image" with --images--.

In claim 5, line 6, replace "the said" with --said--.

In claim 5, line 8, replace "the said" with --said--.

In claim 5, line 12, replace "the said" with --said--.

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8. (Amended) An encoded digital video signal compressed by the method of Claim 1, comprising a bit stream of encoded data for a sequence of video image frames, characterized in that [the] an instantaneous bit rate of the signal is inversely related to [the] a bit density of an image frame n frame periods later where n is determined by [the] said bit density.

In claim 9, line 3, after "derived from", replace "the" with --a--.

REMARKS

This **AMENDMENT and RESPONSE** is submitted in response to the Office Action mailed September 21, 1995, citing objection to claims 1-9 under 35 U.S.C. §112, second paragraph, and rejecting the pending claims under 35 U.S.C. §§ 102, 103. The amendments above, combined with the remarks below, remove all grounds for rejection of the

application. Reconsideration and withdrawal of all objections and rejections is requested, so that this application can be passed onward to issuance.

The Claims are Amended for Accord with 35 U.S.C. § 112

The Examiner has rejected claims 1-9 under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness in failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention. In response, the Applicant has adopted the Examiner's suggestions for remedying any alleged deficiencies. Applicant respectfully requests that these rejections be withdrawn.

The Claims Stand Free of the Cited Art

Claims 1, 2, and 5 stand rejected under 35 U.S.C. § 102 as being anticipated by Haskell *et al.* ("Haskell"), while claims 3, 4, and 6-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Haskell in view of Reininger *et al.* Applicant respectfully transposes the rejection with respect to these claims.

At the outset, pending claim 1 is directed to a method of compression for transmission of digital video signals having a variable number of data bits per image frame. The claimed invention includes the step of writing a signal bit stream into a buffer at a first bit rate. The claimed invention further includes a step of deriving a second bit rate as a percentage of a first bit rate of the signal, changes in which percentage are inversely related to changes in the first bit rate. The bit stream is read out of the buffer at the second bit rate.

A method according to the invention is advantageous insofar as use of a "tunable delay" improves efficiency of decoder buffering by maintaining a relatively constant level of decoder buffer fullness irrespective of signal bit rates.

Haskell reports on jointly controlling an encoder bit rate and a channel bit rate which are determined from the encoder buffer fullness, the decoder buffer fullness, and any constraint imposed on the channel (see col. 2, lines 9-19). Haskell teaches that such joint control provides that neither the encoder buffer nor the decoder buffer will overflow or underflow.

The system described in Haskell is also described in the IEEE Transactions paper referred to at page 2 of the specification of the present application. This IEEE paper co-authored by A. Reibman and B. Haskell (also co-inventors of the Haskell patent) is attached for the Examiner's convenience. Applicant urges the Examiner to compare the Haskell patent and the IEEE paper, especially Figure 1 from Haskell and Figure 1 from the IEEE paper. They are essentially identical.

As stated in the specification of the present application, these references teach a method in which the number of encoded bits for each video frame and the number of bits transmitted across the variable bit-rate channel are selected jointly, a necessity imposed by the differing constraints imposed on the transmitted bit rate by the encoder and decoder buffers respectively. There is no teaching in Haskell of a principal feature of the present invention, namely the relationship of the second bit rate as a percentage of the first, changes in which percentage are inversely related to changes in the first bit rate.

Furthermore, the Examiner appears to equate R_{req} (of Haskell) with the first bit rate and R_i (of Haskell) with the second bit rate as claimed in claim 1 (see, for example, paragraph 8 of the Office Action). However, as is described in Haskell, R_i is the bit rate actually made available by the transmission channel whereas R_{req} is the requested bit rate which is greater than or equal to R_i . There is no suggestion that R_i is derived as a percentage of R_{req} , changes in which percentage are inversely related to changes in R_{req} . Thus, as Haskell fails to teach or suggest such an inverse relationship between bit rates, Haskell does not anticipate the presently claimed invention.

Finally, the object and end result of Haskell is quite different from the present invention. Haskell seeks to prevent the encoder and decoder buffer from overflowing or underflowing by jointly controlling the encoder bit rate and the channel bit rate. In contrast, the present invention provides for a relatively constant level of buffer fullness by deriving the second bit rate as a percentage of the first bit rate, changes in which percentage are inversely related to changes in the first bit rate. Thus, Haskell does not anticipate the presently claimed invention.

For the above reasons, Haskell fails to anticipate the subject matter of independent claim 1. Likewise, and for similar reasons, it is submitted that Haskell does not anticipate independent claim 5, nor the remaining claims -- which depend from claims 1 and 5.

The secondary reference, Reininger *et al*, fails to remedy the deficiencies of Haskell, thereby rendering moot the rejection of claims 3, 4 and 6 - 9.

The prior art submitted, but not relied upon, by the Examiner has been reviewed. It is not deemed relevant because it, like Haskell, does not teach the relationship of the second bit rate as a percentage of the first bit rate where changes in the percentage are inversely related to changes in the first bit rate.

CONCLUSION

For all of the reasons set forth above, Applicants submit that the present case is in condition for immediate allowance. An early notice to that effect is respectfully requested.

January 20, 1996
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A Request for One Month Extension of Time accompanies this filing. Please charge any fees that may be associated with this matter, or credit any overpayments, to our Deposit Account No. 14-1270 (Philips).

Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to be 'D. Powsner', written over a horizontal line.

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1/22/96

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